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EXAMINER
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NAGPAUL, JYOTI

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

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**MAILED**  
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**GROUP 1700**

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/084,409  
Filing Date: February 25, 2002  
Appellant(s): DORITY ET AL.

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Mary Green  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed on June 5, 2007 appealing from the Office action mailed February 17, 2006.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellants' statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellants' statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

4,068,528	Gundelfinger et al	1-1978
4,937,048	Sakai et al	6-1990

4,705,059

Lecerf et al

11-1987

### (9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. **Claims 1, 12, 26-27, 30-32, 34-37, 42-43 and 46** are rejected under 35 U.S.C. 102(b) as being anticipated by Gundelfinger (US 4068528).

Gundelfinger discloses a liquid handling device. The device comprises a housing (10) having a plurality of chambers (F1-F6); and a valve body (10) including a **first fluid processing region** (30a) continuously coupled fluidically with a **fluid displacement region** (50), the fluid displacement region (50) being depressurizable to draw fluid into the fluid displacement region (30a) by a syringe/fluid displacement member (28) and pressurizable to expel fluid from the fluid displacement region (50) by a syringe/fluid displacement member (28), the valve body (10) including a plurality of external ports (F2, 22d), the first fluid processing region (30a) being fluidically coupled with at least two of the external ports (see Figure 11), the fluid displacement region (50, FC) being fluidically coupled with at least one of the external ports (22d, F2) of the valve body (10), and the valve body (10) being adjustable with respect to the housing to allow the external ports is placed selectively in fluidic communication with the plurality of

chambers wherein at least one of the plurality of chambers is a processing chamber, the processing chamber including a first port and a second port for selectively communicating with at least one of the external ports of the valve body, the processing chamber providing an additional fluid processing region. (See Figures 10 and 11)

According to Fig. 11, At least one of the chambers (F1-F6) is a processing chamber having an inlet and outlet ports for selectively communicating with the external port of the valve body (10). The processing chamber (F2) includes a receiving area and retaining area depending on the position of the valve body for receiving a processing module. The device further comprises a crossover channel (RA), the valve body being adjustable with respect to the housing to place the crossover channel in fluidic communication with an aspiration chamber (P5) and a source chamber (P2) to permit aspiration of a fluid from the source chamber through the crossover channel to the aspiration chamber. (See Figure 10) It appears the crossover channel (RA) is a circular arc lying on a common crossover channel radius from the axis. (See Figure 11)

The device further comprises a cover (92).

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a):

5. **Claims 2-11,13-16,28-29,33 and 47-48** are rejected under 35 U.S.C. 103(a) as being unpatentable over Gundelfinger in view of Sakai (US 4937048).

Refer above for the teachings of Gundelfinger.

Gundelfinger fails to teach about the fluid processing material, such as solid phase material and comprises at least on liquid phase material.

Sakai teaches a carrier/bead transporting apparatus for use in an immunological analysis that supplies and/or discharges the predetermined number of carriers/beads into and/or from reaction vessels. Sakai recites, "The enzyme-immuno-assay is further

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classified into homogeneous enzyme immuno-assay and heterogeneous enzyme-immuno-assay. In the homogeneous analysis, a variation in activity of labeling enzyme due to existence or non-existence of the immunological reaction is directly measured to detect substances to be analyzed. In the heterogeneous analysis, use is made of insoluble carriers such as glass beads or synthetic resin particles on which antigen or antibody has been fixed, enzyme-labeled antigen or antibody bound with the antibody or antigen fixed on the carriers and free enzyme-labeled antigen or antibody not bound with the antibody or antigen on the carriers are separated from each other by washing treatment, and then an activity of labeling enzyme is detected to measure a quantity of substances to be analyzed." (See Col. 1, Lines 43-49)

It is conventionally known in the art of immuno-assay analysis. It would have been obvious to one of ordinary skill in this art at the time of the invention by applicant to modify the system of Gundelfinger such that the fluid processing fluid comprises of beads in order to obtain desired accurate and precise analysis of the sample.

6. **Claims 38-41** are rejected under 35 U.S.C. 103(a) as being unpatentable over Gundelfinger in view of Lecerf (US 4705059).

Refer above for the teachings of Gundelfinger.

Gundelfinger fails to teach a transmitting member coupled with the fluid processing region for transmitting energy.

Lecerf discloses a fluid dispensing device. The device comprises an energy transmitting member (14) coupled to the fluid processing region (12) through a cover (12).

It is well known in the art of ink jet printing to use ultrasonic transducers to use ultrasound to move fluid. It would have been obvious to one of the ordinary skill in this art at the time of the invention by applicant to provide a transmitting member such as a transmitting ultrasonic energy through the cover into the fluid processing region in order to provide accurate movement of very small quantities of fluid.

#### **(10) Response to Argument**

***Issue A: Independent claims 1, 26 and 46 are rejected under 35 U.S.C. § 102(b) as being anticipated by Gundelfinger (U.S. Pat. No. 4,068,528). Appellants argue that this rejection is improper.***

Appellants argue that Gundelfinger does not disclose or suggest a housing having a plurality of chambers and a valve body having a fluid-processing region coupled fluidically with a fluid displacement region.

Examiner respectfully disagrees with appellants' argument that Gundelfinger does not teach a housing having **a plurality of chambers**. Appellants assert that the plurality of chambers (F1-F6) of Gundelfinger are flow passages and very small holes in a stator and thus are not chambers. Examiner believes that the flow paths (F1-F6) of Gundelfinger as shown in Figure 10 are equivalent to appellants' chambers (For example, see Figure 9BB for appellant's chamber (64).



Examiner appellants' argument that Gundelfinger does not disclose or suggest a valve body having **a fluid-processing region coupled fluidically with a fluid displacement region**. Appellants' claims 1, 26 and 46 recite, "a valve body including a first fluid processing region continuously coupled fluidically with a fluid displacement region." Examiner has relied upon a sample loop (30a) of Gundelfinger shown in Figure 10 to teach appellant's fluid-processing region. Appellants assert that the sample loop/fluid processing region is external to the valve and thus does not teach a valve body including a first fluid processing region continuously coupled fluidically with a fluid displacement region. Examiner respectfully disagrees. The sample loop/fluid-processing region is attached to the valve body as shown in Figure 10 in Gundelfinger and thus is included in the valve body of Gundelfinger. Therefore, the sample loop/fluid-processing region (30a) of Gundelfinger is equivalent to appellants fluid-processing region (30) shown in Figure 8 in appellants' disclosure.

**Issue B: Dependent claims 2-11, 13-16, 28-29, 33, and 47-48 are rejected under 35 U.S.C. §103(a) as being obvious in light of Gundelfinger (U.S. Pat. No. 4,068,528) in view of Sakai (U.S. Pat. No. 4,937,048) Appellants argue that this rejection is improper.**

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Appellant's arguments for dependent claims 2-11, 13-16, 28-29, 33, and 47-48 are the same as presented above for claims 1, 26 and 46. Examiners response is addressed in Claim 1 above.

**Issue C: *Dependent claims 38-41 are rejected under 35 U.S.C. §103(a) as being obvious in light of Gundelfinger (U.S. Pat. No. 4,068,528) in view Lecerf (U.S. Pat. No. 4,705,059) Appellants argue that this rejection is improper.***

Appellants' arguments for dependent claims 38-41 are the same as presented above for claims 1, 26 and 46. Examiners response is addressed in Claim 1 above.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.


For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Jyoti Nagpaul



Conferees:

  
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